

D I G I T A L R E V E R B

EME-1

USER'S GUIDE

BEDIENUNGSANLEITUNG

MANUEL DE L'UTILISATEUR

MANUAL DE INSTRUCCIONES

Thank you for purchasing a Yamaha EME-1 Digital Reverb. The EME-1 is a sophisticated but easy-to-use digital reverb and effects processor designed primarily for use with Yamaha Clavinova, PortaTone and PortaSound instruments, and which incorporates the very latest Yamaha digital signal processing technology. The clean, natural-sounding effects provided can add a new dimension to your music, significantly expanding your expressive capability. In order to obtain maximum performance, we urge you to read this User's Guide thoroughly before using your EME-1, and keep the manual in a safe place for later reference.

Contents

	Page		Page
1. The Power Supply	1	5. Brief Descriptions of the Effects	4
2. Description of Controls and Connectors	2	6. Troubleshooting	5
3. System Examples	3	7. Specifications	5
4. Operation	4		

Precautions ... READ THIS FIRST!

To ensure safe, reliable operation of your EME-1, please read the following precautions carefully.



... Choosing a Location for your EME-1

Avoid placing the EME-1 in the following locations to prevent possible damage:

- Locations exposed to direct sunlight or near sources of heat.
- Excessively cold locations.
- Locations exposed to high humidity or excessive dust.
- Locations subject to vibration or shock.
- Locations next to transformers or motors (e.g. refrigerators or similar heavy equipment), fluorescent lighting fixtures, television receivers, etc. This type of equipment emits RF noise which may cause a buzzing or humming sound from the EME-1.



... Never Apply Unnecessary Force

The EME-1 is a precision electronic device, and can be damaged if dropped or subject to strong physical shocks. Handle it with care.



... The Power Supply

Use **ONLY** the specified power supply for the EME-1, and always turn the power switch OFF and disconnect the power adaptor from the AC wall outlet after use.

CAUTION:

Do not place the AC adaptor unit on top of the EME-1.



... External Cleaning

Clean the outer case with a soft, dry cloth. Never use solvents such as benzine or thinner, as these can damage the finish.



... Connection with Other Devices

Before connecting the EME-1 to a keyboard or other electronic device, make sure the power to both devices is turned OFF.

1 The Power Supply

The EME-1 is designed for use with an optional Yamaha Power Adaptor. Read the following instructions carefully to ensure that you select the appropriate Power Adaptor and connect it properly.

Using the EME-1 Alone

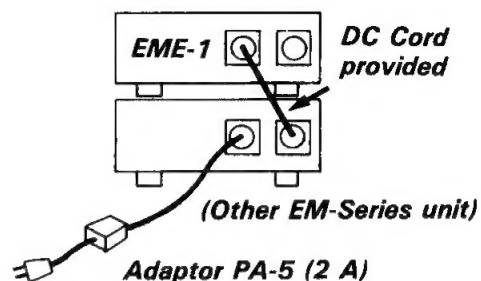
If you intend to use the EME-1 alone (without other Yamaha EM-series devices), select a Yamaha PA-1, PA-4 (PA-40 in U.S.) or PA-5 Power Adaptor. Attempting to use other power adaptors can result in serious damage to the EME-1.

Using the EME-1 with Other EM-series Devices

If you plan to use the EME-1 together with another EM-series device (such as the EMT-10 AWM Sound Expander), select the Yamaha PA-5 Power Adaptor. The PA-5 has sufficient power capacity (2 Amperes) to power two or three EM-series devices as long as their total power consumption does not exceed 2 Amperes.

Connect the power supply as shown in the diagram to the right. Use the DC cord provided to connect the DC OUT jack of the device powered by the PA-5 to the DC IN jack of the second device.

(Rear Panel)



Powering 3 or More EM-series Devices

A single PA-5 Power Adaptor can supply a maximum of 2 Amps (2000 mA), and can therefore be used to power three or more EM-series devices as long as their total power consumption does not exceed this value.

[Combination Example 1]

EME-1	+	EMT-10	+	EMQ-1	=	2000 mA
300 mA		800 mA		900 mA		

The total power consumption of the combination shown above does not exceed 2000 mA, so a single PA-5 is sufficient.

[Combination Example 2]

EME-1	+	EMQ-1	+	EMQ-1	=	2100 mA
300 mA		900 mA		900 mA		

In this case the 2000 mA limit is exceeded, and two Power Adaptors will be required.

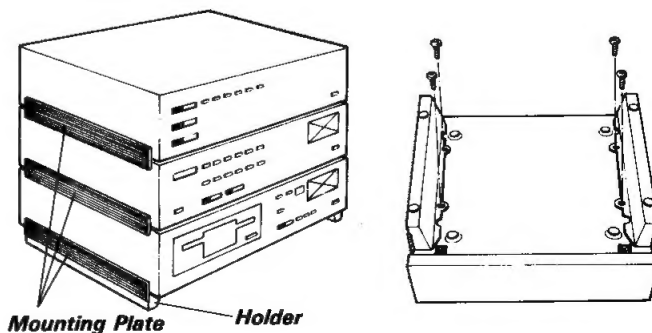
NOTE: DC OUT → DC IN jack connections should be made only between EM-series Expander Modules. Do not use an EM-series DC OUT jack to power other equipment.

Installing the Holders and Mounting Plates

- The EME-1 comes supplied with two holders and two mounting plates. If you will be placing the EME-1 on top of a Clavinova or other keyboard with top-mounted speakers, the holders and mounting plates raise the EME-1 to prevent obstruction of the speaker.

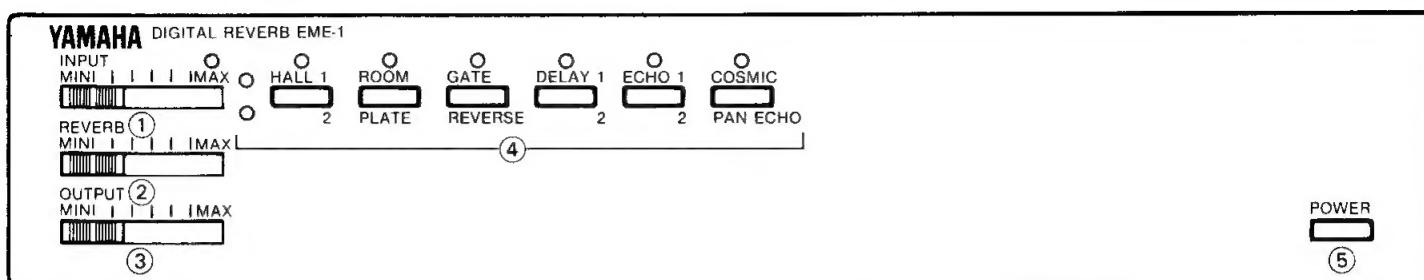
Attach one of the mounting plates to the five grooves on one of the holders. Then attach the mounting plate to the grooves on one side of the EME-1. For added stability screw two of the screws provided into the holes in the bottom panel via the holes in the holder. Repeat this process with the remaining holder and mounting plate on the other side of the EME-1.

- To mount an EM-series device on top of another, use only the mounting plates to connect the grooves of the upper and lower units.



2 Description of the Controls and Connectors

■ Front Panel



① INPUT Control and Clip Indicator

The INPUT control matches the input sensitivity of the EME-1 to the output level of your keyboard. The clip LED warns of excessively high input levels which may cause distortion.

② REVERB Control

This control determines the balance between the reverb (effect) sound and the direct signal from your instrument. Set at MIN, no effect sound will be produced, and you'll hear only the direct sound from your instrument. The MAX setting provides the greatest effect.

③ OUTPUT Control

The OUTPUT control adjusts the output level from the EME-1. Signals received at the AUX IN jacks, however, are not affected by the OUTPUT control setting.

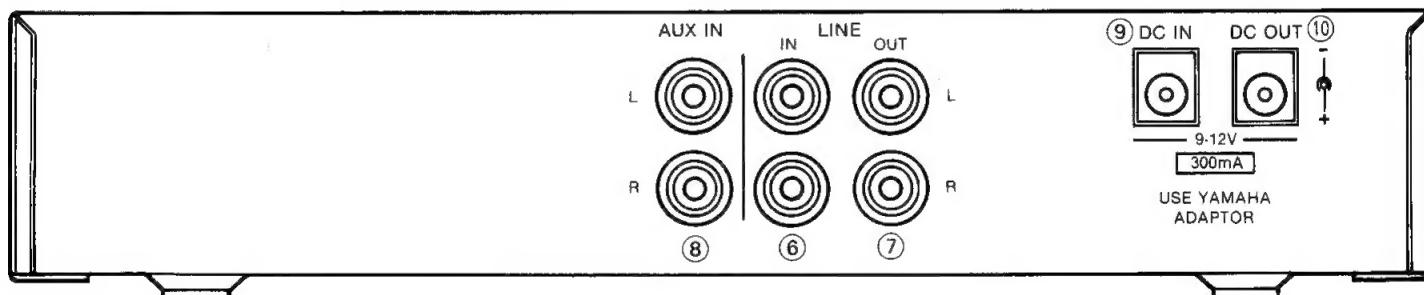
④ Effect Selectors and Indicators

These six selectors are used to activate any of the EME-1's 12 effects. The indicators show which effect is currently selected.

⑤ POWER Switch

Press once to turn power ON, a second time to turn power OFF. The HALL 1 effect indicator will light when the power is initially turned ON.

■ Rear Panel



⑥ LINE IN Jacks

These are the main inputs to the EME-1. EME-1 effects are applied to signals received via the LINE IN jacks. The outputs from your instrument should be connected to these jacks.

⑦ LINE OUT Jacks

These are the main outputs from the EME-1. They should normally be connected to the inputs of your amplifier/speaker system or instrument.

⑧ AUX IN Jacks

A second instrument or line-level source can be connected to these jacks. Signals received at the AUX IN jacks are mixed with the LINE IN and effect signals, but effects are NOT applied to AUX IN signals. Also, AUX IN signals are NOT affected by the EME-1 INPUT or OUTPUT controls.

⑨ DC IN Jack

The optional Yamaha PA-1/PA-4/PA-40/PA-5 Power Adapter connects to this jack.

⑩ DC OUT Jack

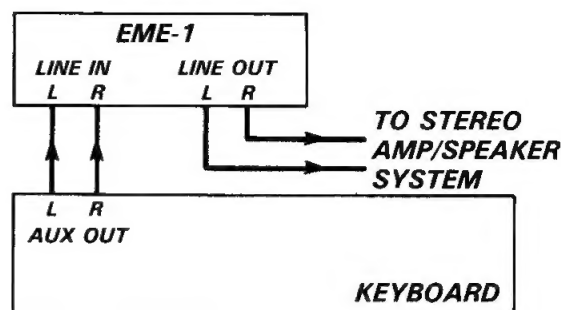
Supplies power to another EM-series device via the DC cord provided.

3 System Examples

The systems shown in example 2, below, and one configuration of example 3 can ONLY be used with specified Yamaha keyboards. Be sure to read the "Important Note!" in examples 2 and 3!

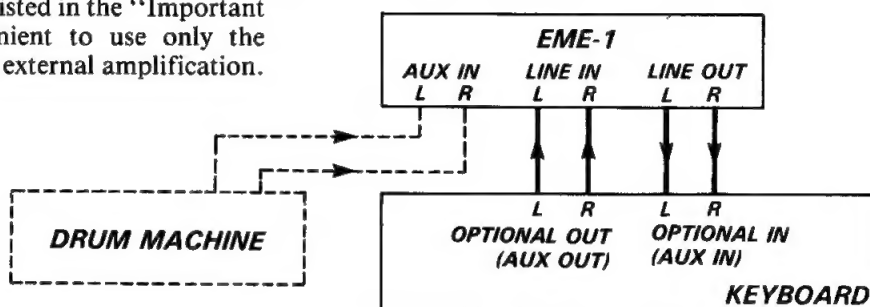
1. Keyboard + EME-1 + External Amplifier/Speaker System

This type of setup can be used with virtually any keyboard instrument or line source, and provides the advantage of bigger, more dynamic sound thanks to external amplification.



2. Keyboard with Internal Speakers + EME-1

If you have one of the instruments listed in the "Important Note!" below, it may be convenient to use only the instrument and the EME-1 without external amplification.



Note that it is possible to connect a second instrument—a drum machine, for example—to the EME-1 AUX IN terminals. The sound of the drum machine will be mixed with that of the keyboard. The effect sound is NOT applied to instruments connected to the AUX IN terminals. This also applies to the other system examples given.

NOTE: If your keyboard has a mono output and input, connect to the "L" LINE IN and LINE OUT jacks on the EME-1.

NOTE: If you have a CLP-500 or CVP-10 use the AUX OUT terminal for connection.

IMPORTANT NOTE!

This type of connection should ONLY be used with the following Yamaha instruments:

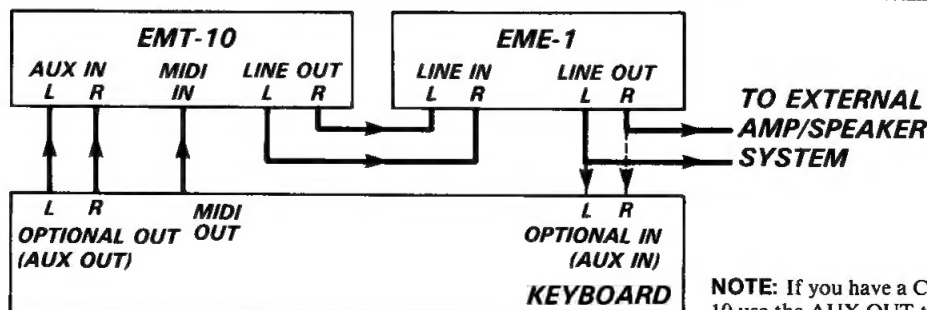
CLP-500, CLP-250, CLP-350, CLP-550, CVP-10, CVP-20, CVP-30, CVP-50, CVP-70 Clavinova

PSR-80, PSR-90, DSR-1000, DSR-2000 PortaTone

Other instruments, because of their internal circuit configuration, may be damaged by this system connection. Instruments other than those listed above, even if they have an AUX IN jack, should be used with an external amplifier/speaker system and connected as shown in example 1, above.

3. Keyboard + EME-1 + EMT-10

In this system, the EME-1 is used together with an EMT-10 AWM Sound Expander, adding both high-quality effects and superb AWM voices to the keyboard.



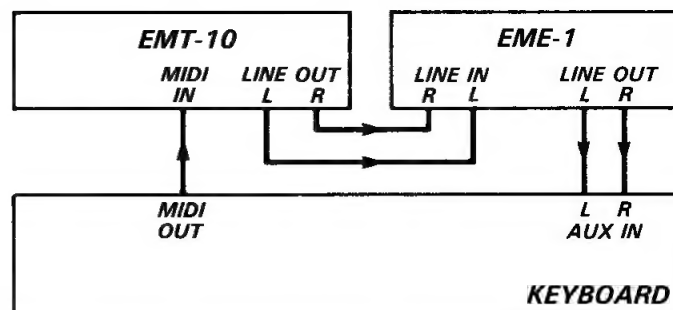
NOTE: If you have a CLP-500 or CVP-10 use the AUX OUT terminal for connection.

IMPORTANT NOTE!

The "Important Note!" given in example 2, above, also applies to this system. If you have one of the instruments listed, the EME-1 output can be returned directly to the instrument's AUX IN or OPTIONAL IN jacks. If you have a different instrument, use an external amplifier/speaker system.

4. Keyboard with Aux In Jacks + EMT-10 + EME-1

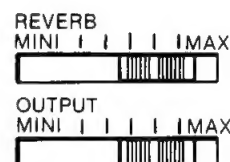
This system is recommended for use with the CLP-100/200/300 Clavinova keyboards. The EMT-10 AWM Sound Expander is driven from the Clavinova MIDI OUT connector, and the EMT-10 voices are processed via the EME-1 to add reverb or other effects. The output from the EME-1 is returned to the Clavinova AUX IN jacks so that both the Clavinova and processed EMT-10 voices are heard via the keyboard's internal speakers.



4 Operation

Control Settings

- Begin by setting the volume control of your keyboard to a medium level then, while playing the keyboard, slide the EME-1 INPUT control towards the MAX setting until the clip LED lights. Then, still playing the keyboard, slide the INPUT control back towards the MIN setting just to the point where the clip LED does not light anymore.
 - If the clip LED does not light even when the INPUT control is set at MAX, increase the setting of the volume control on your keyboard.
 - The clip LED may flash occasionally as you play, but if it lights continuously the sound will be distorted and the INPUT control setting should be reduced.
- Once the INPUT control has been properly set, use the REVERB control to set the desired balance between the direct and effect sounds.
- Use the OUTPUT control to set the overall output level of the direct signal (received at the LINE IN jacks) and the effect sound. Please note that signals received at the AUX IN jack are not affected by the OUTPUT control. No output will be produced if the OUTPUT control is set to its MIN position.

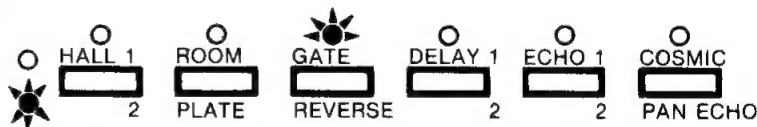


Selecting Effects

The EME-1's 12 effects are selected using 6 effect selectors. Note that each effect selector has a label above and below it. The effects indicated by the upper and lower labels are selected alternately each time the corresponding selector is pressed. For example, if the ROOM effect is selected and you press the same selector a second time, the PLATE effect will be selected. Each press on the ROOM/PLATE selector alternately selects the ROOM and PLATE effects. The two LEDs to the left of the effect selectors indicate whether an upper or lower effect is selected. The LEDs above the selectors indicate which selector is currently active.

In this example the indicator LEDs show that the REVERSE effect is selected.

- The HALL 1 effect is automatically selected when the power is initially turned ON.



5 Brief Descriptions of the Effects

■ HALL 1

A realistic simulation of the natural reverberation of a medium-size concert hall.

■ HALL 2

HALL 2 simulates the sound of a large concert hall.

■ ROOM

ROOM produces a short, crisp reverberation of the type you'd experience in a medium-size room.

■ PLATE

This is an excellent simulation of the smooth, warm reverberation produced by "plate reverb" units—an artificial reverberation device used extensively by professional recording studios.

■ GATE

A contemporary “gated” reverb effect in which the reverb sound is cut off sharply rather than decaying naturally.

■ REVERSE

In this effect, the reverb sound starts at a low level, builds up to maximum, and then cuts off suddenly. The overall sound is somewhat like a tape being played backwards.

■ DELAY 1

A short, crisp stereo delay effect.

■ DELAY 2

A longer and more pronounced delay effect.

■ ECHO 1

Echo differs from delay primarily in the fact that it produces many more gradually decaying repeats. The ECHO 1 repeats are closely spaced, creating a “tight” echo sound.

■ ECHO 2

The repeats in this echo effect are more widely spaced for a large-scale, “open” echo sound.

■ COSMIC

An interesting variation of the standard echo effects.

■ PAN ECHO

The echo sound seems to sweep back and forth between the left and right channels of the stereo sound field.

6 Troubleshooting

If the EME-1 does not seem to be functioning properly, please check the following points before assuming that the EME-1 is faulty.

Symptom	Possible Cause
No sound.	<ul style="list-style-type: none">• EME-1 LINE-OUT jacks not connected to amplifier or keyboard inputs. Check all connections carefully.• External amplifier power not on or volume turned down.
No effect sound.	<ul style="list-style-type: none">• Input is connected to AUX IN instead of LINE IN.• EME-1 may have accidentally been set to the “test mode.” In this case the HALL 1, COSMIC and upper-row effect LEDs will light simultaneously. Press any effect selector button to return to the normal operating mode.
Distorted sound.	<ul style="list-style-type: none">• Is the EME-1 clip LED lit all the time while playing? Turn down the INPUT control until the clip LED does not light.
Loud feedback sound.	<ul style="list-style-type: none">• Read “Important Note!” on page 3. Check your system connections carefully.

7 Specifications

• Effects	: HALL 1, HALL 2, ROOM, PLATE, GATE, REVERSE, DELAY 1, DELAY 2, ECHO 1, ECHO 2, COSMIC, PAN ECHO	• LINE IN/OUT Gain: 10 dB ± 2 dB max.
• Controls	: INPUT, REVERB, OUTPUT, Effect Selectors, Power Switch	• AUX IN/LINE OUT Gain : 0 dB ± 2 dB
• Connectors	: LINE IN (L, R), LINE OUT (L, R), AUX IN (L, R), DC IN (9—12V), DC OUT (9—12V)	• Power Supply : Optional Yamaha PA-1 (300 mA), PA-4/PA-40 (1 A) or PA-5 (2 A) Power Adaptor
• Nominal Input Level:	LINE IN: -10 dBm typ. AUX IN: +4 dBm or 3 Vp-p max.	• Power Consumption : 300 mA max.
• Nominal Output Level	: +4 dBm or 3 Vp-p max.	• Dimensions (W × H × D) : 218 × 44 × 215 mm (8-4/7" × 1-5/7" × 8-4/9")
		• Weight : 1.1 kg (2.4 lbs)
		• Accessories : DC Cord × 1, Connecting Cord × 2, Holder × 2, Mounting Plate × 2

• Specifications are subject to change without notice.

FCC INFORMATION (U.S.A.)

1. IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!

This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.

2. IMPORTANT: When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.

3. NOTE: This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

Relocate either this product or the device that is being affected by the interference.

Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to co-axial type cable.

If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park, CA 90620

The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the manufacture of this product contains LEAD. In addition, the electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT REMOVE ANY ENCLOSURE COMPONENTS! There are no user serviceable parts inside. All service should be performed by a service representative authorized by Yamaha to perform such service.

IMPORTANT MESSAGE: Yamaha strives to produce products that are both user safe and environmentally "friendly". We sincerely believe that our products meet these goals. However, in keeping with both the spirit and the letter of various statutes we have included the messages shown above and others in various locations in this manual.

* This applies only to products distributed by YAMAHA CORPORATION OF AMERICA.

Wichtiger Hinweis für die Benutzung in der Bundesrepublik Deutschland.

Bescheinigung des Importeurs

Hiermit wird bescheinigt, daß der/die/das

Digital Reverb Typ: EME-1

(Gerät, Typ, Bezeichnung)

in Übereinstimmung mit den Bestimmungen der VERFÜGUNG 1046/84

(Amtsblattverfügung)

funk-entstört ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

Yamaha Europa GmbH

Name des Importeurs

* Dies bezieht sich nur auf die von der Yamaha Europa GmbH vertriebenen Produkte.

CANADA

THIS DIGITAL APPARATUS DOES NOT EXCEED THE "CLASS B" LIMITS FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS SET OUT IN THE RADIO INTERFERENCE REGULATION OF THE CANADIAN DEPARTMENT OF COMMUNICATIONS.

LE PRESENT APPAREIL NUMERIQUE N'EMET PAS DE BRUITS RADIOELECTRIQUES DEPASSANT LES LIMITES APPLICABLES AUX APPAREILS NUMERIQUES DE LA "CLASSE B" PRESCRITES DANS LE REGLEMENT SUR LE BROUILLAGE RADIOELECTRIQUE EDICTE PAR LE MINISTERE DES COMMUNICATIONS DU CANADA.

• This applies only to products distributed by Yamaha Canada Music Ltd.
• Ceci ne s'applique qu'aux produits distribués par Yamaha Canada Musique Ltée.

Dette apparat overholder det gældende EF-direktiv vedrørende radiostøj.

Cet appareil est conforme aux prescriptions de la directive communautaire 87/308/CEE.

Diese Geräte entsprechen der EG-Richtlinie 82/499/EWG und/oder 87/308/EWG.

This product complies with the radio frequency interference requirements of the Council Directive 82/499/EEC and/or 87/308/EEC.

Questo apparecchio è conforme al D.M.13 aprile 1989 (Direttiva CEE/87/308) sulla soppressione dei radiodisturbi.

Este producto está de acuerdo con los requisitos sobre interferencias de radio frecuencia fijados por el Consejo Directivo 87/308/CEE.

YAMAHA CORPORATION

YAMAHA